
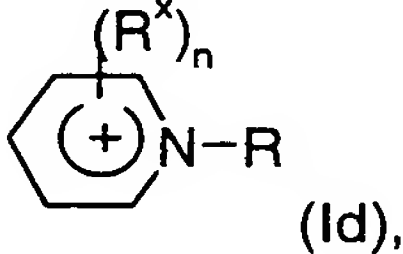

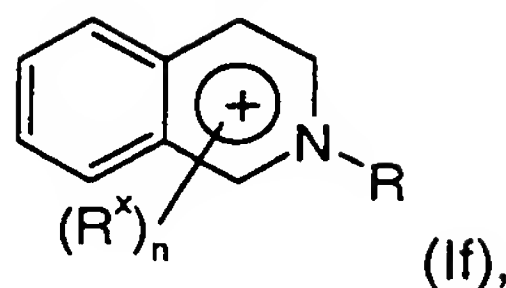


We claim:

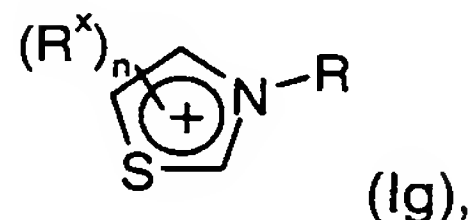
1. A process for the extractive removal of optionally substituted phenol, 3-hydroxypyrazole, 2-hydroxypyridine, hydroquinone, resorcinol, catechol; C<sub>1</sub>-C<sub>20</sub>-alcohol, glycol, glycerol, optionally substituted aniline, N-C<sub>1</sub>-C<sub>20</sub>-alkylamine, N,N-di-C<sub>1</sub>-C<sub>20</sub>-alkylamine, P-C<sub>1</sub>-C<sub>20</sub>-alkylphosphine, P,P-di-C<sub>1</sub>-C<sub>20</sub>-alkylphosphine, phenylphosphine, diphenylphosphine, hydrazine, hydroxylamine, sulfonic acid, sulfinic acid, phosphoric acid, carboxylic acid or amino acid from aprotic solvents by means of ionic liquids of the formula [K]<sub>n</sub><sup>+</sup>[A]<sub>n</sub><sup>-</sup>,  
 5 where  
 n is 1, 2 or 3;  
 [K]<sup>+</sup> is selected from the group consisting of:
- quaternary ammonium cations of the formula [NR<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>]<sup>+</sup> (Ia),
  - quaternary phosphonium cations of the formula [PR<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>]<sup>+</sup> (Ib),  
 15 where  
 R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> are each C<sub>1</sub>-C<sub>12</sub>-alkyl or phenyl-C<sub>1</sub>-C<sub>4</sub>-alkyl, where the aliphatic radicals may bear from 1 to 4 substituents selected from the group consisting of halogen, amino, cyano, C<sub>1</sub>-C<sub>4</sub>-alkoxy and the phenyl ring may bear the abovementioned substituents and also C<sub>1</sub>-C<sub>6</sub>-alkyl, carboxylate and sulfonate groups;  
 20 R<sup>1</sup> and R<sup>2</sup> may together form a C<sub>4</sub>-C<sub>5</sub>-alkenylene radical which may be substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl, halogen, cyano or C<sub>1</sub>-C<sub>4</sub>-alkoxy;
  - imidazolium cations of the formula,  
  
 (Ic),
  - pyridinium cations of the formula,  
  
 (Id),
  - pyrazolium cations of the formula,  
  
 (Ie),
  - quinolinium cations of the formula,
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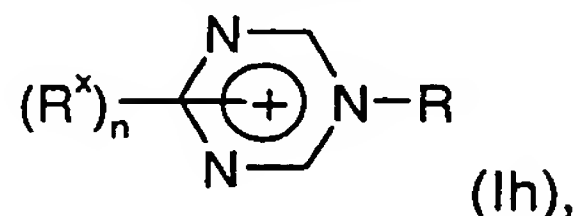
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- thiazolium cations of the formula,



- triazinium cations of the formula,



where the index n and the substituents R and R<sup>x</sup> have the following meanings:

n is 0, 1, 2, 3 or 4;

R is hydrogen, C<sub>1</sub>-C<sub>12</sub>-alkyl or phenyl-C<sub>1</sub>-C<sub>4</sub>-alkyl, where the aliphatic radicals may bear from 1 to 4 substituents selected from the group consisting of halogen, amino, cyano, C<sub>1</sub>-C<sub>4</sub>-alkoxy and the phenyl ring may bear the abovementioned substituents and also C<sub>1</sub>-C<sub>6</sub>-alkyl, carboxylate and sulfonate groups;

R<sup>x</sup> is C<sub>1</sub>-C<sub>6</sub>-alkyl, halogen, amino, cyano, C<sub>1</sub>-C<sub>4</sub>-alkoxy, carboxylate or sulfonate;

[A]<sup>n-</sup> is the partly or fully deprotonated anion of an inorganic or organic protic acid H<sub>n</sub>A (III), where n is a positive integer and indicates the charge on the anion.

- The process according to claim 1, wherein the organic compound to be extracted is a phenol or alcohol.
- The process according to claim 1 or 2, wherein the aprotic solvent is a hydrocarbon.
- The process according to any of claims 1 to 3, wherein the hydrocarbon is an alkane or halogenated alkane.

- The process according to any of claims 1 to 3, wherein the hydrocarbon is an

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arene which is optionally substituted by halogen, nitro, cyano, C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>1</sub>-C<sub>3</sub>-alkoxy or methoxycarbonyl.

- 5 6. The process according to any of claims 1 to 5, wherein the ionic liquid is an ammonium or imidazolium salt or a mixture of these salts.
7. The process according to any of claims 1 to 6, wherein the ionic liquid is a sulfate or hydrogensulfate.
- 10 8. The process according to claim 1, 6 or 7, wherein a phenol is removed from chlorobenzene.
9. The process according to any of claims 1 to 8, wherein the extracted impurity is separated off from the ionic liquid by distillation.
- 15 10. The process according to any of claims 1 to 8, wherein the extracted impurity is separated off from the ionic liquid by reextraction.